

1 IN THE CLAIMS

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3 Applicant amends the Claims as follows:

4
5 Claims 1-8 have been previously canceled.

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7 9. (Previously Presented and Previously Twice Amended)

8 A selectable waveguide arrangement for respectively
9 communicating first or second or third signals from an antenna
10 feed to respective first and second and third probes, the
11 selectable waveguide arrangement comprising a front end
12 selectable waveguide and a back end selectable waveguide,
13 wherein,

14 the front end selectable waveguide comprises:

15 an antenna feed port coupled to the antenna feed for
16 communicating the first and second and third signals between
17 the antenna feed and the first and second and third probes,
18 respectively;

19 a first front end waveguide section having a first front
20 end shape for coupling to the antenna feed port for
21 communicating the second and third signals;

22 a first front end port for coupling to the back end
23 selectable waveguide for communicating the second and third
24 signals between the antenna feed port and the back end
25 selectable waveguide;

26 a second front end waveguide section having a second front
27 end shape for coupling to the antenna feed port for
28 communicating the first signal;

1 a second front end port for coupling the first probe to
2 the second front end waveguide section for communicating the
3 first signal between the antenna feed port and the first probe
4 through the second front end waveguide section; and

5 a front end element for supporting the first front end
6 waveguide section and the second front end waveguide section,
7 the front end element has a first front end position for
8 communicating the second and third signals between the antenna
9 feed port through the first front end waveguide section through
10 the first front end port to the back end selectable waveguide,
11 the front end element has a second front end position for
12 communicating the first signal between the antenna feed port
13 through the second front end waveguide section through the
14 second front end port to the first probe, and wherein,

15 the back end selectable waveguide comprises:

16 a back end input port coupled to the first front end port
17 for communicating the second and third signals between the
18 first front end port respectively to the second and third
19 probes;

20 a first back end waveguide section having a first back end
21 shape for coupling to the back end input port for communicating
22 the second and third signals;

23 a first back end port for coupling to the first back end
24 waveguide section for communicating the third signal between
25 the back end input port and the third probe through the first
26 back end waveguide section;

1 a second back end waveguide section having a second back
2 end shape for coupling to the back end input port for
3 communicating the second signal;

4 a second back end port for coupling the second back end
5 waveguide section to the second probe for communicating the
6 second signal between the back end input port and the second
7 probe through the second back end waveguide section; and

8 a back end element for supporting the first back end
9 waveguide section and the second back end waveguide section,
10 the back end element has a first back end position for
11 communicating the third signal between the back end input port
12 through the first back end waveguide section through the first
13 back end port to the third probe, the back end element has a
14 second back end position for communicating the second signal
15 between the back end input port through the second back end
16 waveguide section through the second back end port to the
17 second probe, one of the first and second front end shapes is
18 straight and the other is bent at ninety degrees, one of the
19 third and fourth back end shapes is straight and the other is
20 bent at ninety degrees, the first and second and third and
21 fourth waveguide sections have cross sections selected from the
22 group of square and circular.

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1 10. (Previously Presented and Previously Amended)

2 The selectable waveguide arrangement of claim 9 wherein,
3 the first front end waveguide section shape is straight
4 and uniform in cross section and extends from the antenna feed
5 port to the first front end port,

6 the first back end waveguide section shape is straight and
7 uniform in cross section and extends from the back end input
8 port to the first back end port,

9 the second front end waveguide section shape is bent at
10 ninety degrees having a forty-five degree reflective surface
11 and uniform in cross section and extends from the antenna feed
12 port to the second front end port, and

13 the second back end waveguide section shape is bent at
14 ninety degrees having a forty-five degree reflective surface
15 and uniform in cross section and extends from the back end
16 input port to the second back end port.

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19 11. (Currently Twice Amended and Previously Presented)

20 The selectable waveguide arrangement and claim 9 wherein,

21 the first and second front end waveguide sections have a
22 larger ~~smaller~~ cross section than the first and second back end
23 waveguide sections, respectively.

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1 12. (Currently Twice Amended and Previously Presented)

2 The selectable waveguide arrangement of claim 9, wherein
3 the second and third signals are respective polarized signals
4 and are orthogonally polarized with respect to ~~respecting~~ each
5 other.

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7 13. (Previously Presented) The selectable waveguide
8 arrangement of claim 9, wherein the first front end port is a
9 tapered port for attenuating low frequency components of the
10 second and third signals.

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12 14. (Previously Presented and Previously Twice Amended)

13 The selectable waveguide arrangement of claim 9, wherein
14 the third signal comprises a fourth signal and a fifth signal,
15 the selectable waveguide arrangement is coupled to a fourth
16 probe and a fifth probe, the selectable waveguide arrangement
17 further comprises,

18 a coupler coupled to the first front end port and
19 comprising a fourth port and fifth port respectively coupled to
20 the fourth and fifth probes, the fourth and fifth signals are
21 orthogonally polarized with respect to each other and the
22 fourth and fifth probes are polarization sensitive to
23 respectively communicate the fourth and fifth signals between
24 the antenna feed port and the fourth and fifth probes through
25 the first front end waveguide section and fourth and fifth
26 ports.

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1 15. (Currently Amended and Previously Presented

2 A selectable waveguide having a first position and a
3 second position for respectively communicating first or second
4 signals from an antenna feed to respective first and second
5 probes, the selectable waveguide comprising,

6 an antenna feed port coupled to the antenna feed for
7 communicating the respective signals between the antenna feed
8 and the first and second probes,

9 a first waveguide section having a first shape and a first
10 cross-section for coupling to the antenna feed port for

11 communicating the first signal, the first shape is straight,

12 a first port for coupling the first probe to the first
13 waveguide section for communicating the first signal between
14 the first probe and the first waveguide section,

15 a second waveguide section having a second shape and a
16 second cross-section for coupling to the antenna feed port for
17 communicating the second signal, the second shape is bent at
18 ninety degrees with a forty-five degree reflective surface,

19 a second port for coupling the second probe to the second
20 waveguide section for communicating the second signal between
21 the second probe and the second waveguide section, the first
22 and second cross sections are selected from the group
23 consisting of square and circular, the first and second shapes
24 and the first and second cross sections enable concurrent
25 isolated communications of the first and second signals through
26 either one of the first and second waveguide sections when the
27 first and second signals are orthogonally polarized with
28 respect to respecting each other, and

1 an element for supporting the first and second waveguide
2 sections, the element having a first position for communicating
3 the first signal between the antenna feed port through the
4 first waveguide section to the first port, the element having a
5 second position for communicating the second signal between the
6 antenna feed port through the second waveguide section to the
7 second port.

12 16. (Currently Amended and Previously Presented)

13 The selectable waveguide of claim 15 wherein,
14 the element is a rotating element,
15 the first signal is a first polarized signal,
16 ~~the first waveguide shape is straight,~~
17 the second signal is a second polarized signal,
18 ~~the second waveguide shape is bent at ninety degrees~~
19 ~~having a forty five degree reflective surface, and~~
20 the selectable waveguide is for selecting the
21 communication of either the first or second polarized signals,
22 wherein the first and second polarized signals being orthogonal
23 with respect to each other.

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1 17. (Currently Amended and Previously Presented)

2 The selectable waveguide of claim 15 wherein,

3 the element is a rotating element,

4 the first signal is a circularly polarized signal,

5 ~~the first waveguide shape is straight,~~

6 the second signal is a linearly polarized signal,

7 ~~the second waveguide shape is bent at ninety degrees~~

8 ~~having a forty-five degree reflective surface,~~ and

9 the selectable waveguide is for selectively communicating

10 either the circularly polarized signal or the linearly

11 polarized signal.

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18. (Currently Amended and Previously Presented)

A selectable waveguide having a first position and a second position for respectively communicating first or second signals from an antenna feed to respective first and second probes, the selectable waveguide comprising,

an antenna feed port coupled to the antenna feed for communicating the respective signals between the antenna feed and the first and second probes,

a first waveguide section having a first shape and a first cross-section for coupling to the antenna feed port for communicating the first signal, the first shape is straight,

a first port for coupling the first probe to the first waveguide section for communicating the first signal between the first probe and the first waveguide section,

a second waveguide section having a second shape and a second cross-section for coupling to the antenna feed port for communicating the second signal, the second shape is bent at ninety degrees with a forty-five degree reflective surface,

a second port for coupling the second probe to the second waveguide section for communicating the second signal between the second probe and the second waveguide section, the first and second cross sections are selected from the group consisting of square and circular, the first and second shapes and the first and second cross sections enable concurrent isolated communications of the first and second signals through either one of the first and second waveguide sections when the first and second signals are orthogonally polarized with respect to ~~respecting~~ each other, and

1 an element for supporting the first and second waveguide
2 sections, the element having a first position for communicating
3 the first signal between the antenna feed port through the
4 first waveguide section to the first port, the element having a
5 second position for communicating the second signal between the
6 antenna feed port through the second waveguide section to the
7 second port,

8 wherein:,

9 the second signal comprises a high frequency signal and a
10 low frequency signal;

11 the reflective surface is a frequency selective reflective
12 surface for reflecting the low frequency signal to the second
13 port and for passing the high frequency signal to the first
14 port; and

15 the second waveguide section comprises a waveguide
16 extension extending from the frequency selective reflective
17 surface and the first port for communicating the high frequency
18 signal to the first probe through the first port when the
19 selectable waveguide is in the second position.

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